IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.(Currently Amended) Polycrystalline alumina components optionally containing MgO in a concentration of at most 0.3 wt-% ~~characterized in that~~, wherein the alumina contains a concentration from 0.1 to 0.5 wt-% inclusive ZrO_2 ~~inclusive~~ as an additive and has an average crystal size≤2 μm, ~~and~~ a relative density higher than 99.95%, and is transparent with a real in-line transmission RIT≥30% measured over an angular aperture of at most 0.5° at a sample thickness of 0.8 mm and with a monochromatic wavelength of light λ.

2.(Currently Amended) ~~Polycrystalline~~ The polycrystalline alumina components according to claim 1, ~~characterized in that~~ wherein the average crystal size is ≤1 μm and the real in-line transmission RIT is at least 40%.

3.(Currently Amended) ~~Polycrystalline~~ The polycrystalline alumina components according to claim 1, ~~characterized in that~~ wherein the ZrO_2 additive is in a concentration from 0.1 wt-% to 0.3 wt-%, inclusive.

4. (Currently Amended) ~~Discharge~~ A discharge lamp ~~characterized in that the lamp is provided with~~ comprising a discharge tube having a wall of a ceramic as claimed in claim 1.

5.(Currently Amended) ~~Lamp~~ The discharge lamp according to claim 4 ~~characterized in that~~ wherein the discharge tube has an ionisable filling containing a metal halide.

6.(Currently Amended) ~~Method~~ A method for forming a polycrystalline alumina component as claimed in claim 1 ~~characterized in that the process~~ wherein the method includes the ~~steps~~ acts of

preparing a slurry of corundum power with a mean grain size ≤ 0.2 μm,

adding a dopant, selected from zirconia and a zirconium containing precursor,

casting the slurry in a mould to form a moulded body, drying and sintering of the moulded body ~~thus formed~~, and

performing a HIP treatment at a temperature of at least 1150° C. for at least 2 hours.

7.(Currently Amended) ~~Method~~ The method according to claim 6, wherein the dopant is added as finely grained ZrO_2.

8.(Currently Amended) ~~Method~~ The method according to claim 6, wherein the ~~finely grained ZrO_2~~ dopant has an average particle size of at most 100 nm.

9.(Currently Amended) ~~Method~~ The method according to claim 6, wherein after the ~~addition~~

~~of the zirconia dopant~~ adding act, the prepared slurry is slip cast in a mould.

10.(Currently Amended) ~~Method~~ The method according to claim 6, wherein after the addition of the zirconia dopant the prepared slurry is gel cast in a mould.

11.(Currently Amended) Polycrystalline alumina components ~~characterized in that the~~ comprising alumina which contains a concentration between 0.1 to 0.5wt-% inclusive as an additive, has an average crystal size ≤ 2 µm, ~~and~~ has a relative density higher than 99.95%, and is transparent.

12.(Currently Amended) The Polycrystalline alumina components of claim 11 ~~further characterized in that~~, wherein the alumina contains MgO in a concentration of at most 0.3 wt-%.

13.(Currently Amended) ~~Discharge~~ A discharge lamp ~~characterized in that the is provided with~~ comprising a discharge tube having a wall of a ceramic as claimed in claim 11.

14.(Currently Amended) ~~Method~~ A method for forming a polycrystalline alumina component as claimed in claim 11 ~~characterized in that~~, wherein the ~~process~~ method includes the ~~steps~~ acts of:

preparing a slurry of corundum power with a mean grain size ≤ 0.2 µm,

adding a dopant, selected from zirconia and a zirconium containing precursor,

casting the slurry in a mould to form a moulded body, drying and sintering of the moulded

body~~ thus formed~~, and

performing a HIP treatment at a temperature of at least 1150° C. for at least 2 hours.

15.(New) The Polycrystalline alumina components of claim 11, wherein the transparency of the alumina is at least 30% having a real in-line transmission RIT≥30% measured over an angular aperture of at most 0.5° at a sample thickness of 0.8 mm and with a monochromatic wavelength of light λ.

16.(New) The polycrystalline alumina components of claim 11, wherein the RIT is based on a following relationship:

$$RIT = (1 - R)\exp(-\frac{3\pi^2 G d \Delta n^2}{2\lambda_0^2})$$

where

R is a coefficient of surface reflection,

d is the sample thickness,

G is the average crystal size,

Δn is an effective birefringence of alpha-alumina calculated as a weighted average of refractive index differences between each of main optical axes, and

λ_0 is the monochromatic wavelength of the light in vacuum.